Noun phrases in Trans New Guinea languages

Alexander Zahrer

University of Münster

a.zahrer@uni-muenster.de

APLL 16

Amsterdam, 03. July 2024

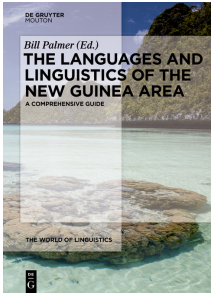
Trans New Guinea

- the largest family of Papuan languages
- spoken across most parts of mainland New Guinea
- several proposals of classification (the "TNG hypothesis", cf. Pawley & Hammarström 2017)
- Glottolog 5.0 (Hammarström et al. 2024) proposes 'nuclear TNG':
  - **316 languages**
  - **10 primary branches**
- some typical features: complex verb morphology, switch reference, tail-head linkage, verb-final word order, low morphological complexity on nouns

Noun phrases in TNG

Literature reviewing the TNG family barely touches NPs:

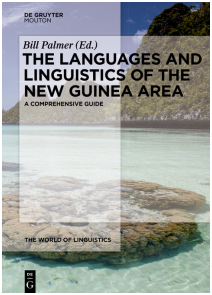
- Fedden (2020): focus on verbs and complex predicates
- Pawley & Hammarström (2017): only 7 pages on "Nouns and nominal constructions" (90-97), focussing on pronoun paradigms
- The same holds true for general literature on "Papuan languages" (cf. Foley 1986, 2000)



Noun phrases in TNG

Literature reviewing the TNG family barely touches NPs:

- Fedden (2020): focus on verbs and complex predicates
- Pawley & Hammarström (2017): only 7 pages on "Nouns and nominal constructions" (90-97), focussing on pronoun paradigms
- The same holds true for general literature on "Papuan languages" (cf. Foley 1986, 2000)



Why? - Are NPs in Papua really that boring?

Goals of this study

Investigation of noun phrase structure in TNG.

Typological data from **Grambank** (Skirgård et al. 2023)

Two steps:

1. Establishing a FAMILY PROTOTYPE
2. Working through the family in two dimensions
   - A Per language: Comparing each language with the prototype
   - B Per variable: Tracking variables through the family tree

1. Establishing a FAMILY PROTOTYPE

Methodology

Data preparation & Prototype

1. Identify Grambank variables related to NPs
2. Extract data for TNG languages
3. Take the mode of each value for the prototype

Resulting in ...

1. 66 languages from all primary branches
2. 21 variables
3. relevant topics: articles, modifiers, nouns inflection, noun derivation, NP internal agreement

NP prototype

GB020	**GB021**	**GB022**	**GB023**	GB024	GB025	GB026	GB193	GB042	GB043	GB044	GB046	GB047	GB048	GB049	…
0	**0**	**0**	**0**	2	2	0	2	0	0	0	0	1	0	0	…

Articles

- No definite / specific articles
- No indefinite articles
- No prenominal position of articles
- No postnominal position of articles

NP prototype

GB020	GB02	GB022	GB023	**GB024**	**GB025**	**GB026**	**GB193**	GB042	GB043	GB044	GB046	GB047	GB048	GB049	...
0	0	0	0	**2**	**2**	**0**	**2**	0	0	0	0	1	0	0	...

Modification

- Typical order: N-Num
- Typical order: N-Dem
- No discontinuous property words
- Typical order: N-Adj

NP prototype

GB020	GB02	GB022	GB023	GB024	GB025	GB026	GB193	**GB042**	**GB043**	**GB044**	**GB046**	GB047	GB048	GB049	...
0	0	0	0	2	2	0	2	**0**	**0**	**0**	**0**	1	0	0	...

Inflection

- Nouns are not productively marked for singular
- Nouns are not productively marked for dual
- Nouns are not productively marked for plural
- There is no associative plural marker for nouns

NP prototype

GB020	GB02	GB022	GB023	GB024	GB025	GB026	GB193	GB042	GB043	GB044	GB046	**GB047**	**GB048**	**GB049**	...
0	0	0	0	2	2	0	2	0	0	0	0	**1**	**0**	**0**	...

Derivation

- There is a productive pattern for deriving action / state nouns from a verb
- No productive pattern for deriving agent nouns from a verb
- No productive pattern for deriving object nouns from a verb

NP prototype

	GB024	GB025	GB026	GB193	GB042	GB043	GB044	GB046	GB047	GB048	GB049	**GB170**	**GB171**	**GB172**	**GB184**	**GB185**	**GB186**
...	2	2	0	2	0	0	0	0	1	0	0	**0**	**0**	**0**	**0**	**0**	**0**

Agreement

- There is no NP internal agreement for gender
- There is no NP internal agreement for number

Proceeding in two directions

	Language_ID	GB020	GB021	GB022	GB023	GB024	GB025	GB026	GB193	GB042	GB043
1	aghu1255	0	0	0	0	2	2	1	2	0	0
2	auye1238	1	0	0	1	2	1	NA	3	1	0
3	awap1236	1	0	0	1	1	1	0	1	0	1
4	awar1248	0	0	0	0	2	2	NA	2	0	0
5	barg1252	0	1	0	1	2	2	NA	2	0	0
6	bimi1240	1	1	0	1	2	2	NA	2	0	0
7	bina1277	0	0	0	0	2	2	0	2	0	0
8	boun1245	1	0	0	1	2	1	0	2	0	0
9	domm1246	0	0	0	0	2	2	0	2	0	0
10	east2516	1	0	1	1	2	1	0	3	0	1
11	elpo1242	0	0	0	0	2	1	0	0	0	0
12	ekar1243	0	1	0	1	2	3	NA	3	0	1
13	fait1240	NA	NA	NA	NA	3	3	0	3	0	0
14	fore1270	0	0	0	0	NA	NA	0	NA	0	0
15	gant1244	1	1	0	1	2	2	0	2	0	0
16	gira1247	0	0	0	0	2	3	0	2	0	0
17	goli1247	0	0	0	0	NA	NA	0	NA	0	0

2.A: Per language comparison

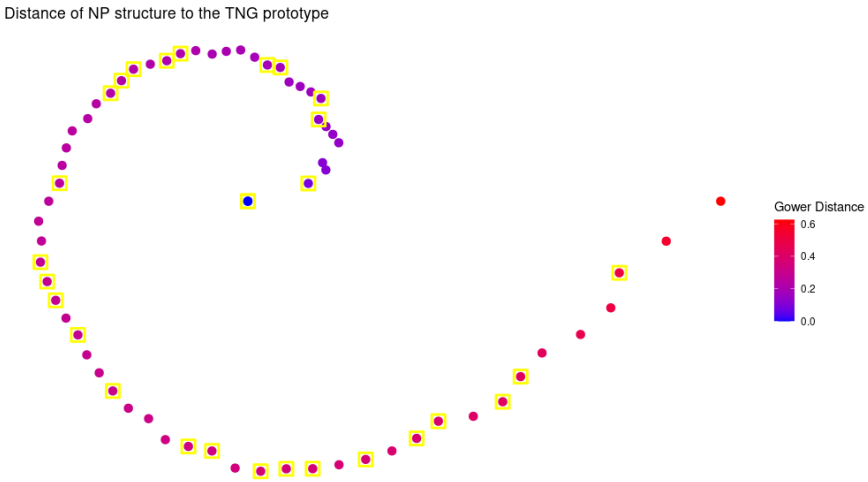
Methods

Language comparison

1. Compare each language to the prototype
2. Calculate Gower distance
3. Sort languages from least distant to most distant

$$D_{Gower}(x_1, x_2) = 1 - \left(\frac{1}{p} \sum_{j=1}^{p} s_j(x_1, x_2) \right)$$

Results prototypicality



Yellow squares indicate 7 or more missing values.

Typical languages (i.e. low Gower distance)

[GD=0.111]

Kuman (Chimbu-Wahgi)

Manat (Madang)

(1) yaba kris kiris ini-n
water bad bad DEM.near-ACC
'this very bad water'
(Daniels 2015:579)

[GD=0.143]

Dom (Chimbu-Wahgi)

Eipo (Mek)

Kombai (Asmat-Awyu-Ok)

(2) kho mujano
man big
'a big man'
(De Vries 1993:36)

Unusual languages (i.e. high Gower distance)

[GD=0.625]

Ekari (Paniai Lakes)

(3) kou peu mee kodo
DEM.f bad person DEM.f
'that bad person'
(Doble 1987:67)

[GD=0.556]

Bimin (Asmat-Awyu-Ok)

(4) kunum finik wa so mak
man spirit bad ACP IDEF
'a man with a bad spirit'
(Weber 1997:48)

[GD=0.5]

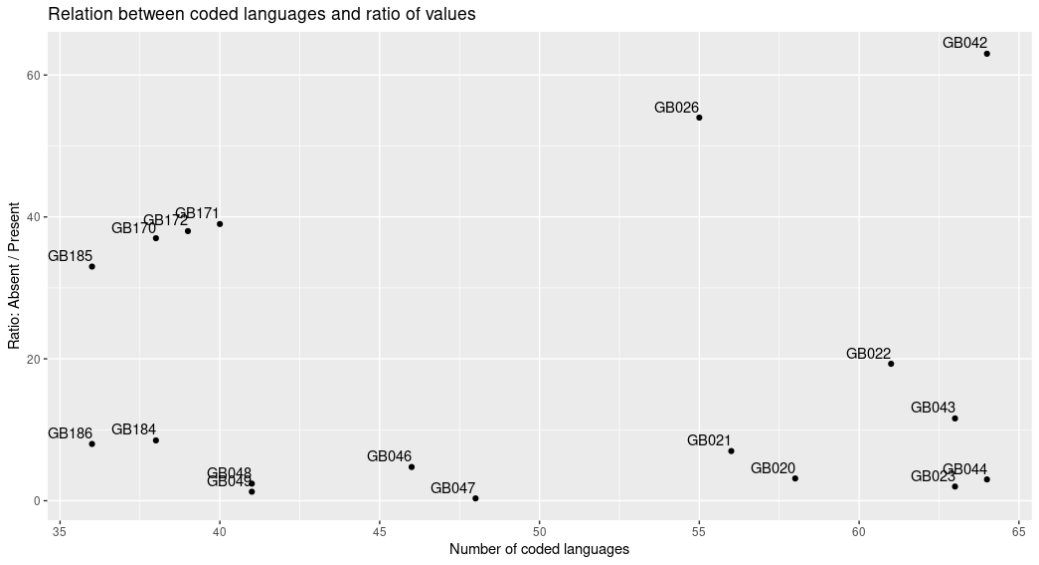
Mian (Asmat-Awyu-Ok)

(5) tíl=e milil=e
dog=SG.M black=SG.M
'a/the black dog'
(Fedden 2011:209)

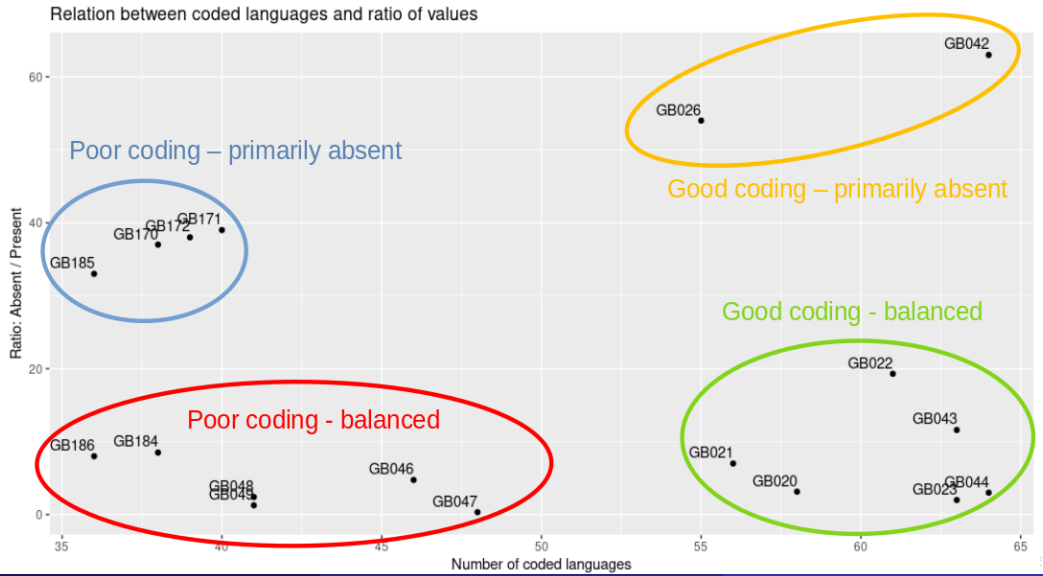
Glosses: ACP - accompaniment, DEM - demonstrative, IDEF - indefinite article

2.B: Per variable comparison

Coding quality of Grambank data



Coding quality of Grambank data



Tracking six variables in the family tree

Articles:

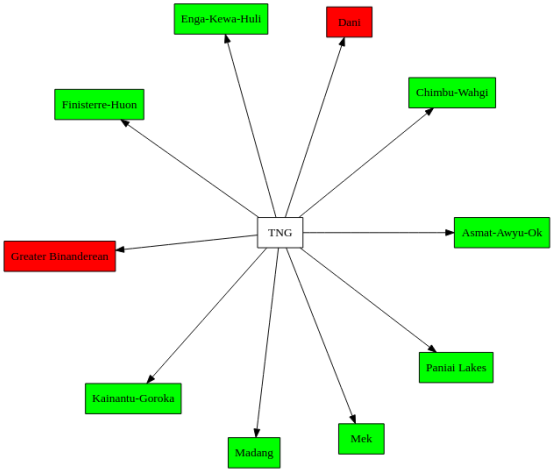
- GB020: Are there definite or specific articles?
- GB021: Do indefinite nominals commonly have indefinite articles?
- GB022: Are there prenominal articles?
- GB023: Are there postnominal articles?

Dual and Plural marking on nouns:

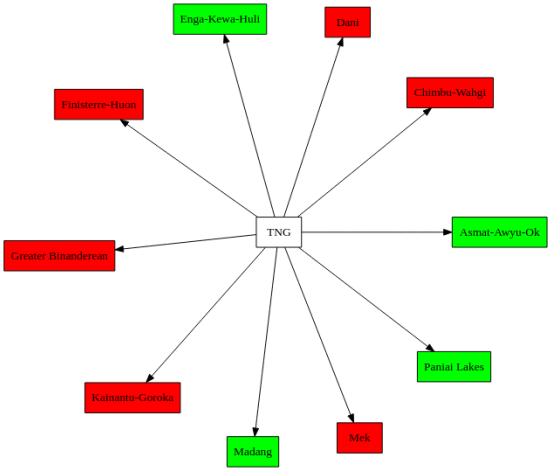
- GB043: Is there productive morphological dual marking on nouns?
- GB044: Is there productive morphological plural marking on nouns?

Variables: Articles existing? (GB020, GB021)

GB020: Definite articles



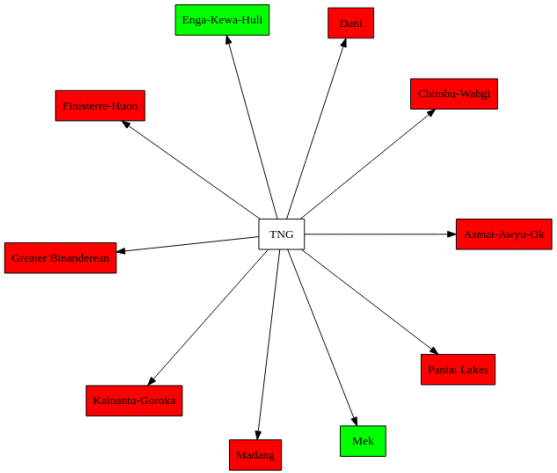
GB021: Indefinite articles



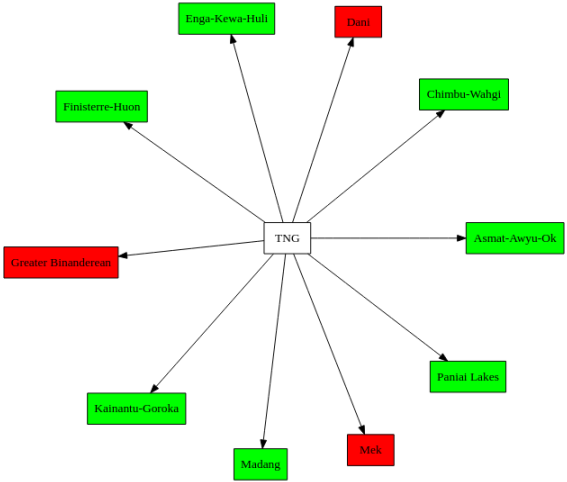
Filling colors: green = at least one language with '1', red = all languages '0' or 'N/A'

Variables: Article position? (GB022, GB023)

GB022: Prenominal articles



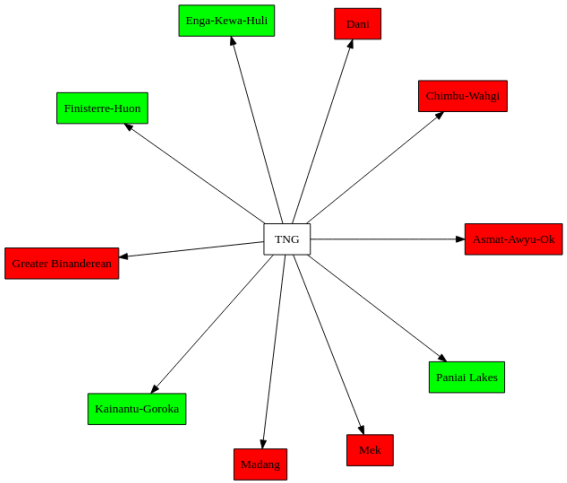
GB023: Postnominal articles



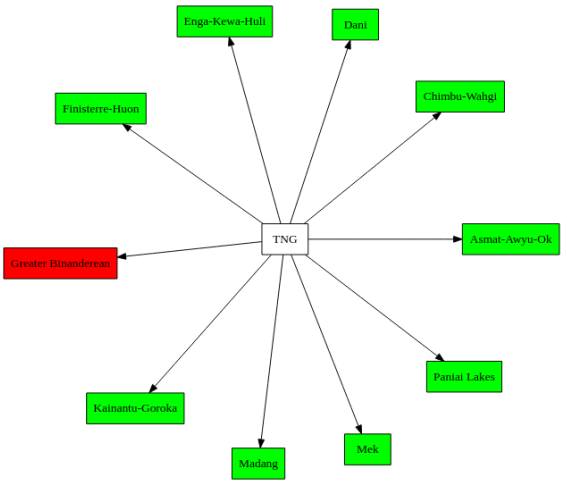
Filling colors: green = at least one language with '1', red = all languages '0' or 'N/A'

Variables: Dual or plural on nouns? (GB043, GB044)

GB043: Dual marking (nouns)



GB044: Plural marking (nouns)



Filling colors: green = at least one language with '1', red = all languages '0' or 'N/A'

Examples for articles

Definite article/postnominal: Sirva (Madang (Sogeram), Daniels 2015:701)

(6) Ka-ma ad-ɨi, kava sirɨn **beau** mɨ-ra wa-ra ...
MD-ADVZ do-3SG.DS bird egg **DEF.ACC** get-SS go-SS
'It did that, and she took the bird egg and went and ...'

Definite article/prenominal: Nalca (Mek (Western Mek), Svärd 2013:16)

(7) Dara, sikda **ban** yuba keb-nam-ak
CONJ 3PL.NOM **DET** word hear-FUT-3PL.PRS
'they will also hear' (Acts 28:28)

Indefinite article: Bargam (Madang (Croisilles), Hepner 2006:28):

(8) In karuw **ara?** yag-01-iy.
they animal a give.me-PA-N1P
'They gave me a pig.'

Conclusion

Conclusion

General findings (related to the methodology):

- The prototype is “boring” but variation is exciting.
- Typological data should be used to study individual language families.
- Feature variation can be tracked across the family tree (here only primary branches).

Conclusion

General findings (related to the methodology):

- The prototype is "boring" but variation is exciting.
- Typological data should be used to study individual language families.
- Feature variation can be tracked across the family tree (here only primary branches).

Some findings for TNG:

- Typically, head nouns precede all other elements (i.e. modifiers and determiners)
- Nominalized verbs usually designate actions (rather than objects or agents)
- Articles are only fully absent in Dani and Greater Binanderean
- Some form of plural marking is found in every primary branch (except Greater Binanderean)
- ...

Future work

Next steps in my study:

- incorporate further variables (e.g. noun reduplication, noun phrase conjunction, case flagging)
- track features below the primary branches
- compare Gower distances above individual languages

Long-term:

- incorporate areal information to track features per geographically

References I

- Daniels, Don. 2015. A reconstruction of Proto-Sogeram phonology, lexicon, and morphosyntax. PhD thesis, University of California, Santa Barbara.
- Doble, Marion. 1987. A Description of Some Features of Ekari Language Structure. Oceanic Linguistics XXVI. 55-113.
- Fedden, Sebastian. 2011. A Grammar of Mian. De Gruyter.
- Fedden, Sebastian. 2020. Morphology of Trans New Guinea Languages. Oxford Research Encyclopedia of Linguistics.
- Foley, William A. 1986. The Papuan Languages of New Guinea. Cambridge: Cambridge University Press.
- Foley, William A. 2000. The languages of New Guinea. Annual Review of Anthropology 29: 357-404.
- Hammarström, Harald & Forkel, Robert & Haspelmath, Martin & Bank, Sebastian. 2023. Glottolog 5.0. Leipzig: Max Planck Institute for Evolutionary Anthropology. https://doi.org/10.5281/zenodo.10804357 (Available online at http://glottolog.org, Accessed on Accessed on 2024-06-25.)
- Hepner, Mark. 2006. 2006. Bargam grammar sketch. SIL PNG.
- Skirgård et al. 2023. Grambank reveals the importance of genealogical constraints on linguistic diversity and highlights the impact of language loss. Nature 54, 143–51.

References II

- Svärd, Erik. 2013. Selected topics in the grammar of Nalca. BA thesis, Stockholm University.
- Pawley, Andrew, & Harald Hammarström. 2017. The Trans New Guinea family. In: The languages and linguistics of the New Guinea area: A comprehensive guide, Bill Palmer (ed.), 21–196.
- Weber, Thomas. 1997. Bimin grammar essentials. SIL PNG.
- de Vries, Lourens. 1993. Forms and functions in Kombai, an Awyu language of Irian Jaya. The Australian National University.